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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,723	02/02/2004	Katsuya Tanaka	16869N-104900US	2283

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EXAMINER
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PATEL, HETUL B

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,723

Applicant(s)

TANAKA ET AL.

Examiner

Hetul Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/02/04 & 05/09/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

ET

### **DETAILED ACTION**

1. Claims 1-9 are presented for examination.

#### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

#### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 02/02/2004 and 05/09/2005 were filed after the mailing date of the application on 02/02/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Drawings***

4. Figures 20-24 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto et al. (USPN: 6,393,519) hereinafter, Fujimoto.

As per claim 1, Fujimoto teaches a disk device comprising a disk controller (the disk array controller 5 in Fig. 10) comprising a channel adapter (the channel I/F unit 111 in Fig. 10), a cache memory (115 in Fig. 10), and a disk adapter (the disk I/F unit 112 in Fig. 10); and a disk array (120 in Fig. 10) comprising disk drives, each being equipped with a plurality of I/O ports (shown in Fig. 10), wherein said disk adapter and said disk array are connected via a switch (the selector unit 124 in Fig. 10), and wherein a destination drive I/O port to which a frame is to be forwarded is determined, according to the type of a command included in an exchange that is transferred between said disk adapter and one of said disk drives (e.g. see Col. 6, lines 13-21 and Fig. 10).

As per claim 4, see arguments with respect to the rejection of claim 1. Claim 4 is also rejected based on the same rationale as the rejection of claim 1.

As per claim 2, Fujimoto teaches the claimed invention as described above and furthermore, Fujimoto teaches that the destination drive port (i.e. the requested port number) to which said frame is to be forwarded is determined, depending on whether the type of the command is a data read command (i.e. RD when "00") or a data write command (i.e. WR when "01") (e.g. see Col. 6, lines 13-21).

As per claim 5, see arguments with respect to the rejection of claim 2. Claim 5 is also rejected based on the same rationale as the rejection of claim 2.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto in view of Hashemi et al. (USPN: 5,396,596) hereinafter, Hashemi.

As per claim 3, Fujimoto teaches the claimed invention as described above. However, Hashemi failed to teach the further limitation of executing said exchange for reading data and said exchange for writing data in parallel. Hashemi, on the other hand, teaches about reading and writing data in parallel/simultaneously (e.g. see Col. 7, lines 8-16 and Figs. 9-10). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement the teachings

of Hashemi in the disk device taught by Fujimoto. In doing so, the overall performance of the disk device is improved. Therefore, this is being advantageous.

As per claims 7 and 9, see arguments with respect to the rejection of claims 1-3. Claims 7 and 9 are also rejected based on the same rationale as the rejection of claims 1-3.

As per claim 8, see arguments with respect to the rejection of claims 1 and 2. Claim 8 is also rejected based on the same rationale as the rejection of claims 1 and 2.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto in view of Tanaka et al. (USPN: 6,915,380) hereinafter, Tanaka.

As per claim 6, as shown above in the rejection of claims 1 and 2, Fujimoto teaches all limitations except that said switch selects one of port to port connection paths between a port to which said disk adapter is connected and ports to which the disk drives constituting said disk array are connected to switch each frame inputted to the switch, according to the destination information within the frame. However, Tanaka teaches a switch (SW1 in Fig. 1) selects one of port to port connection paths between a port to which said disk adapter (DKA in Fig. 1) is connected and ports to which the disk drives (shown in Fig. 1) constituting said disk array are connected to switch each frame inputted to the switch, according to the destination information within the frame (e.g. see Col. 3, lines 31-40 and Fig. 1). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement the teachings of Tanaka in the system taught Fujimoto. In doing so, data can be sent from

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wide groups of disk drives to a group of disk adaptor.

### ***Conclusion***


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*HBP*  
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**MATTHEW D. ANDERSON**  
PRIMARY EXAMINER